Warm Up 25

1. scalene
2. $x = 8$
3. $\angle 4$
4. 5 in.
5. 55°

Lesson Practice 25

a. $\angle Q$ corresponds to $\angle U$, $\angle P$ corresponds to $\angle S$, and $\angle R$ corresponds to $\angle T$. Side $\overline{PR}$ corresponds to $\overline{ST}$, $\overline{RQ}$ corresponds to $\overline{TU}$, and $\overline{PQ}$ corresponds to $\overline{SU}$.

b. Since A corresponds to D, B corresponds to E, and C corresponds to F, $\triangle ABC \cong \triangle DEF$.

c. $\angle J \cong \angle S$, $\angle K \cong \angle T$, $\angle L \cong \angle U$, $\overline{JL} \cong \overline{SU}$, $\overline{LK} \cong \overline{UT}$, and $\overline{KJ} \cong \overline{TS}$

d. 110°, 140°

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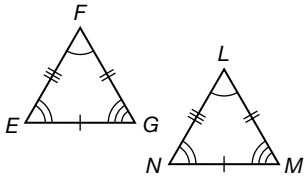
Practice 25

1. 46.2 m
2. 22.6 m
3. $\triangle ABC \cong \triangle DCB$
4. kite
5. 360 ft
6. Yes. The rails are not parallel. If two lines are cut by a transversal and alternate interior angles are not congruent, then the lines are not parallel.
7. 

8. Sample: $n > 4$
9. 0.36 mi
10. 0.76 mi
11. The angle statements are correct, but $\overline{BC} \cong \overline{XZ}$ and $\overline{AC} \cong \overline{YZ}$ are not. She has the last two corresponding sides reversed.

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12.

$$2x + 10 = 4x - 20$$

$2x + 10 - 10 = 4x - 20 - 10$	Subtraction Property of Equality
$2x = 4x - 30$	Simplify.
$2x - 4x = 4x - 30 - 4x$	Subtraction Property of Equality
$-2x = -30$	Simplify.
$\frac{-2x}{-2} = \frac{-30}{-2}$	Division Property of Equality
$x = 15$	Simplify.

13. C

14. trapezoid

15. Kelly is wearing a blue shirt.

16. yes; yes

17.

$$\frac{x + 5}{3} = 3$$

$3\left(\frac{x + 5}{3}\right) = 3(3)$	Multiplication Property of Equality
$x + 5 = 9$	Simplify.
$x + 5 - 5 = 9 - 5$	Subtraction Property of Equality
$x = 4$	Simplify.

18. irregular concave heptagon

19. not a polygon

20. false, a rhombus is a quadrilateral whose sides have equal length

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21. $\angle A \cong \angle L, \angle B \cong \angle M, \overline{AB} \cong \overline{LM}, \overline{BC} \cong \overline{MN}$

22. $x + (3x + 20) = 180$

$4x + 20 = 180$	Simplify.
$4x + 20 - 20 = 180 - 20$	Subtraction Property of Equality
$4x = 160$	Simplify.
$\frac{4x}{4} = \frac{160}{4}$	Division Property of Equality
$x = 40$	Simplify.

Therefore, the angles are 40° and 140°.

23. slope $= -\frac{8}{9}$. Since A's y-coordinate is larger than B's, the road is going downhill from A to B.

24. biconditional

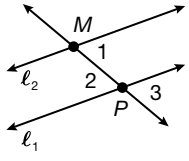
25. $n = 0$

26. 126 ft

27. The team will make the playoffs; the Law of Detachment

28. If a bee leaves the hive, then it is not the queen bee.

29. Sample answer: $\angle 1$ and $\angle 2$ are alternate interior angles, and $\angle 1$ and $\angle 3$ are corresponding angles



30. 115°

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